WASTE MANAGEMENT

Testimony of Ellie Townsend-Hough

SUMMARY OF CONCLUSIONS

Management of the waste generated during construction and operation of the Orange Grove Project (OGP) would not result in any significant adverse impacts, and would comply with applicable waste management laws, ordinances, regulations, and standards, if the measures proposed in the Application for Certification (AFC) and staff's proposed conditions of certification are implemented.

INTRODUCTION

This Final Staff Assessment (FSA) presents an analysis of issues associated with wastes generated from the proposed construction and operation of the OGP. The technical scope of this analysis encompasses solid wastes existing onsite and those to be generated during facility construction and operation. Management and discharge of wastewater is addressed in the **SOIL AND WATER RESOURCES** section of this document. Additional information related to waste management may also be covered in the **WORKER SAFETY** and **HAZARDOUS MATERIALS MANAGEMENT** sections of this document.

The Energy Commission staff's objectives in conducting this waste management analysis are to ensure that:

- The management of project wastes would be in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Compliance with LORS ensures that wastes generated during the construction and operation of the proposed project would be managed in an environmentally safe manner.
- The disposal of project wastes would not result in significant adverse impacts to existing waste disposal facilities.
- Upon project completion, the site is managed in such a way that project wastes and waste constituents would not pose a significant risk to humans or the environment.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

The following federal, state, and local environmental laws, ordinances, regulations and standards (LORS) have been established to ensure the safe and proper management of both solid and hazardous wastes in order to protect human health and the environment. Project compliance with the various LORS is a major component of staff's determination regarding the significance and acceptability of the OGP with respect to management of waste.

Waste Management Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	
Title 42, United States Code (U.S.C.), §§6901, et seq. Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al).	The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA) et al, establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation and delegation to states, enforcement provisions and responsibilities, as well as research, training, and grant funding provisions. RCRA Subtitle C establishes provisions for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing: • Generator record keeping practices that identify quantities of hazardous wastes generated and their disposition; • Waste labeling practices and use of appropriate containers; • Use of a manifest when transporting wastes; • Submission of periodic reports to the United States Environmental Protection Agency (USEPA) or other authorized agency; and • Corrective action to remediate releases of hazardous waste and contamination associated with RCRA-regulated facilities. RCRA Subtitle D establishes provisions for the design and operation of solid waste landfills. RCRA is administered at the federal level by USEPA and its ten regional offices. The Pacific Southwest regional office (Region 9) implements USEPA programs in California, Nevada, Arizona, and Hawaii.
Title 42, U.S.C., §§ 9601, et seq. Comprehensive Environmental Response, Compensation and Liability Act	The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, establishes authority and funding mechanisms for cleanup of uncontrolled or abandoned hazardous waste sites, as well as cleanup of accidents, spills, or emergency releases of pollutants and contaminants into the environment. Among other things, the statute addresses: • Reporting requirements for releases of hazardous substances; • Requirements for remedial action at closed or abandoned hazardous waste sites, and brownfields; • Liability of persons responsible for releases of hazardous substances or waste; and • Requirements for property owners/potential buyers to conduct “all appropriate inquiries” into previous ownership and uses of the property to 1) determine if hazardous substances have been or may have been released at the site, and 2) establish that the owner/buyer did not cause or contribute to the release. A Phase I Environmental Site Assessment is commonly used to satisfy CERCLA “all appropriate inquiries” requirements.

Applicable Law	Description
Title 40, Code of Federal Regulations (CFR), Subchapter I – Solid Wastes.	These regulations were established by USEPA to implement the provisions of the Solid Waste Disposal Act and RCRA (described above). Among other things, the regulations establish the criteria for classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for management of used oil and universal wastes. • Part 246 addresses source separation for materials recovery guidelines. • Part 257 addresses the criteria for classification of solid waste disposal facilities and practices. • Part 258 addresses the criteria for municipal solid waste landfills. • Parts 260 through 279 address management of hazardous wastes, used oil, and universal wastes (i.e., batteries, mercury-containing equipment, and lamps). USEPA implements the regulations at the federal level. However, California is an authorized state so the regulations are implemented by state agencies and authorized local agencies in lieu of USEPA.
Title 49, CFR, Parts 172 and 173. Hazardous Materials Regulations	U.S. Department of Transportation established standards for transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping of hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests. Section 172.205 specifically addresses use and preparation of hazardous waste manifests in accordance with Title 40, CFR, section 262.20.
State	
California Health and Safety Code (HSC), Chapter 6.5, §25100, et seq. Hazardous Waste Control Act of 1972, as amended.	This California law creates the framework under which hazardous wastes must be managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards (regulations) that are equal to or, in some cases, more stringent than federal requirements. The California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) administers and implements the provisions of the law at the state level. Certified Unified Program Agencies (CUPAs) implement some elements of the law at the local level.

Applicable Law	Description
Title 22, California Code of Regulations (CCR), Division 4.5. Environmental Health Standards for the Management of Hazardous Waste	These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with the federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Generator standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters. The standards addressed by Title 22, CFR include: • Identification and Listing of Hazardous Waste (Chapter 11, §§66261.1, et seq.) • Standards Applicable to Generators of Hazardous Waste (Chapter 12, §§66262.10, et seq.) • Standards Applicable to Transporters of Hazardous Waste (Chapter 13, §§66263.10, et seq.) • Standards for Universal Waste Management (Chapter 23, §§66273.1, et seq.) • Standards for the Management of Used Oil (Chapter 29, §§66279.1, et seq.) • Requirements for Units and Facilities Deemed to Have a Permit by Rule (Chapter 45, §§67450.1, et seq.) The Title 22 regulations are established and enforced at the state level by DTSC. Some generator standards are also enforced at the local level by CUPAs.
HSC, Chapter 6.11 §§25404 – 25404.9 Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)	The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the six environmental and emergency response programs listed below. • Aboveground Storage Tank Program • Business Plan Program • California Accidental Release Prevention (CalARP) Program • Hazardous Material Management Plan / Hazardous Material Inventory Statement Program • Hazardous Waste Generator / Tiered Permitting Program • Underground Storage Tank Program The state agencies responsible for these programs set the standards for their programs while local governments implement the standards. The local agencies implementing the Unified Program are known as Certified Unified Program Agencies (CUPAs). San Diego County Department of Environmental Health is the area CUPA. **Note:** The Waste Management analysis only considers application of the Hazardous Waste Generator/Tiered Permitting element of the Unified Program. Other elements of the Unified Program may be addressed in the Hazardous Materials and/or Worker Health and Safety analysis sections.

Applicable Law	Description
Title 27, CCR, Division 1, Subdivision 4, Chapter 1, §15100, et seq. Unified Hazardous Waste and Hazardous Materials Management Regulatory Program	While these regulations primarily address certification and implementation of the program by the local CUPAs, the regulations do contain specific reporting requirements for businesses. • Article 9 – Unified Program Standardized Forms and Formats (§§ 15400-15410). • Article 10 – Business Reporting to CUPAs (§§15600 – 15620).
Public Resources Code, Division 30, §40000, et seq. California Integrated Waste Management Act of 1989.	The California Integrated Waste Management Act of 1989 (as amended) establishes mandates and standards for management of solid waste. Among other things, the law includes provisions addressing solid waste source reduction and recycling, standards for design and construction of municipal landfills, and programs for county waste management plans and local implementation of solid waste requirements.
Title 14, CCR, Division 7, §17200, et seq. California Integrated Waste Management Board	These regulations further implement the provisions of the California Integrated Waste Management Act and set forth minimum standards for solid waste handling and disposal. The regulations include standards for solid waste management, as well as enforcement and program administration provisions. • Chapter 3 -- Minimum Standards for Solid Waste Handling and Disposal. • Chapter 3.5 – Standards for Handling and Disposal of Asbestos Containing Waste. • Chapter 7 – Special Waste Standards. • Chapter 8 – Used Oil Recycling Program. • Chapter 8.2 – Electronic Waste Recovery and Recycling
HSC, Division 20, Chapter 6.5, Article 11.9, §25244.12, et seq. Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14).	This law was enacted to expand the State's hazardous waste source reduction activities. Among other things, it establishes hazardous waste source reduction review, planning, and reporting requirements for businesses that routinely generate more than 12,000 kilograms (~ 26,400 pounds) of hazardous waste in a designated reporting year. The review and planning elements are required to be done on a 4 year cycle, with a summary progress report due to DTSC every 4th year.
Title 22, CCR, §67100.1 et seq. Hazardous Waste Source Reduction and Management Review.	These regulations further clarify and implement the provisions of the Hazardous Waste Source Reduction and Management Review Act of 1989 (noted above). The regulations establish the specific review elements and reporting requirements to be completed by generators subject to the Act.

Applicable Law	Description
Local	
San Diego County Code of Regulatory Ordinances 9840 Sections 68.508 through 68.518	The County Code of Regulatory Ordinances relating to diversion of construction and demolition materials from landfill disposal.
San Diego County Integrated Waste Management Plan	Provides guidance for local management of solid waste and household hazardous waste (incorporates the County's Source Reduction and Recycling Elements, which detail means of reducing commercial and industrial sources of solid waste).
San Diego County Department of Environmental Health, Hazardous Material Division (HMD) various programs	HMD is the Certified Unified Program Agency (CUPA) for San Diego County that regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes, and/or have underground storage tanks. HMS programs include assistance with oversight on property re-development (i.e., brownfields); and voluntary or private oversight cleanup assistance.

SETTING

The proposed OGP is a 96 Megawatt (MW) natural gas-fired, simple cycle generating facility (OGE2008a, page 1-1). The simple cycle equipment will consist of two General Electric LM6000 combustion turbine generators, and associated support equipment. The facility will be located on an 8.5-acre parcel in an unincorporated area of rural north San Diego County, California. The proposed project site is on portions of the southwest ¼ of the southeast ¼ of Section 29 and the northwest ¼ of the northeast ¼ of Section 32, in Township 9 South, Range 2 West, San Bernardino Baseline and Meridian. The site is 5.0 miles east of the City of Fallbrook and approximately 2.0 miles west of the community of Pala (OGE2008a, page 1-3) the region is primarily rural, including agriculture, large plot residential, small communities, open space and large-scale commercial/industrial such as hotel/casino and mining operations. (OGE2008a, page 6.9-1).

The project is located within a 54-acre property owned by San Diego Gas & Electric (SDG&E). The project site is located on disturbed lands previously used as a citrus grove/orchard; The SDG&E Pala substation and a fenced SDG&E storage area are located on the parcel immediately south of the proposed site. (OGE2008a, page 2.1).

A 2.4-mile underground gas pipeline will be constructed to convey natural gas to OGP from an existing SDG&E gas transmission line. Also, a 0.3-mile underground electric transmission line interconnection will be constructed between the Site and the Pala substation. The utility lines parallel Pala Road (also known as State Route 76) in unincorporated San Diego County California. The pipeline route consists of 2.4 miles of roadway and undeveloped land, and less than an acre of storage yard which is part of a larger 54-acre parcel owned by SDG&E (TRC2008e Phase I ESA).

The construction and demolition associated with OGP will produce a variety of mixed nonhazardous wastes, such as orchard wood, scrap wood, metal, plastics, etc. Waste

will be recycled where practical and nonrecyclable waste will be deposited in a Class III landfill. The hazardous waste generated during this phase of the project will consist of electrical equipment, used oils, universal wastes, solvents, and empty hazardous waste materials. (OGE2008a, Section 6.14). Universal wastes are hazardous wastes that contain mercury, lead, cadmium, copper and other substances hazardous to human and environmental health. Examples of universal wastes are batteries, fluorescent tubes, and some electronic devices.

The proposed OGP would be a peaking power plant and would operate during times of very high electrical load or when baseload plants are not operating, or during emergency conditions. Operation and maintenance of the plant and associated facilities will generate a variety of wastes, including hazardous wastes. To control air emissions, the project's turbine units would use selective catalytic reduction and oxidation catalyst equipment and chemicals, which generate recyclable hazardous waste.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

This Waste Management analysis addresses: a) existing project site conditions and the potential for contamination associated with prior activities on or near the project site, and b) the impacts from the generation and management of wastes during project construction and operation.

A. For any site in California proposed for the construction of a power plant, the applicant must provide documentation about the nature of any potential or existing releases of hazardous substances or contamination at the site. If potential or existing releases or contamination at the site are identified, the significance of the release or contamination would be determined by site-specific factors, including, but not limited to: the amount and concentration of contaminants or contamination; the proposed use of the area where the contaminants/contamination is found; and any potential pathways for workers, the public, or sensitive species or environmental areas to be exposed to the contaminants. Any unmitigated contamination or releases of hazardous substances that pose a risk to human health or environmental receptors would be considered significant by Energy Commission staff.

   As a first step in documenting existing site conditions, the Energy Commission's power plant site certification regulations require that a Phase I Environmental Site Assessment (ESA) be prepared[1] and submitted as part of an application for certification. The Phase I ESA is conducted to identify any conditions indicative of releases and threatened releases of hazardous substances at the site and to identify any areas known to be contaminated on (or a source of contamination) or near the site.

   In general, the Phase I ESA uses a qualified Environmental Professional (EP) to conduct inquiries into past uses and ownership of the property, research hazardous

[1] Title 20, California Code of Regulations, Section 1704(c) and Appendix B, section (g) (12) (A). Note that the Phase I ESA must be prepared according to American Society for Testing and Materials protocol or an equivalent method agreed upon by the applicant and the Energy Commission staff.

substance releases and hazardous waste disposal at the site and within a certain distance of the site, and visually inspect the property, making observations about the potential for contamination and possible areas of concern. After conducting all necessary file reviews, interviews, and site observations, the EP then provides findings about the environmental conditions at the site. In addition, since the Phase I ESA does not include sampling or testing, the EP may also give an opinion about the potential need for any additional investigation. Additional investigation may be needed, for example, if there were significant gaps in the information available about the site, an ongoing release is suspected, or to confirm an existing environmental condition.

If additional investigation is needed to identify the extent of possible contamination, a Phase II ESA may be required. The Phase II ESA usually includes sampling and testing of potentially contaminated media to verify the level of contamination and the potential for remediation at the site.

In conducting its assessment of a proposed project, Energy Commission staff will review the project's Phase I ESA and work with the appropriate oversight agencies as necessary to determine if additional site characterization work is needed and if any mitigation is necessary at the site to ensure protection of human health and the environment from any hazardous substance releases or contamination identified.

B. Regarding the management of project-related wastes generated during construction and operation of the proposed project, staff reviews the applicant's proposed solid and hazardous waste management methods and determines if the methods proposed are consistent with the LORS identified for waste disposal and recycling. The federal, state, and local LORS represent a comprehensive regulatory system designed to protect human health and the environment from impacts associated with management of both non-hazardous and hazardous wastes. Absent any unusual circumstances, staff considers project compliance with LORS to be sufficient to ensure that no significant impacts would occur as a result of project waste management.

   Staff then reviews the capacity available at off-site treatment and disposal sites and determines whether or not the proposed power plant's waste would have a significant impact on the volume of waste a facility is permitted to accept. Staff uses a waste volume threshold equal to 1 percent of a disposal facility's remaining permitted capacity to determine if the impact from disposal of project wastes at a particular facility would be significant.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Existing Site Conditions

A Phase I ESA of the proposed project site, dated June 6, 2008, was prepared by TRC in accordance with the American Society for Testing and Materials Standard Practice E 1527-00 for ESAs. The Phase I ESA is included as Appendix 6.14A in Volume III of the project AFC (OGE2008a, Appendix 6.14A).

The Phase I ESA conducted for the proposed OGP site did not identify any recognized environmental conditions (REC) associated with the proposed project site and linear facility corridors. A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under the conditions that indicated an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or in the ground, groundwater, or surface water of the property.

The proposed project is located on an 8.5 acre parcel out of a 54-acre parcel owned by SDG&E. SDG&E has owned the property since 1970. The project site consists primarily of a former orchard and dirt roads to access the orchard. Plastic irrigation pipes are running through the orchard, as well as water/hose connections (TRC2008b Section 2.3). Although the site has been used as an orchard since 1946 the orchard has not been maintained or irrigated for at least the last five years (OGE2008a Section 6.14.1). Concentrations of Total Petroleum Hydrocarbons (TPH), Volatile organic compounds (VOC's), herbicides, and pesticides were not detected in soul samples analyzed at the site (OGE2008a Section 6.14A Appendix E). Two pole mounted transformers are also located on site. Soil sampling directly below the transformer and in another area on the project did not identify detectable Polychlorinated Biphenyls (PCBs) in the soil (TR2008e Phase I).

Other onsite uses of the 54-acre SDG&E property include the Pala electrical substation and a material storage area as well as an onsite caretaker residence. Neither the substation nor the storage area are included as part of the project site. The storage area will be used as a construction laydown area.

Staff has proposed Conditions of Certification **WASTE-1** and **WASTE-2** to mitigate potential impacts. These proposed conditions of certification require that a Registered Professional Geologist or Engineer with experience in remedial investigation and feasibility studies be available for consultation during soil excavation and grading activities. This would be adequate to address identification and investigation of any soil or groundwater contamination that may be encountered.

Construction Impacts and Mitigation

Site preparation, demolition, and construction of the proposed power plant and associated facilities would generate both nonhazardous and hazardous wastes in solid and liquid forms (OGE2008a, section 6.14.1.2.1). There will be minimum demolition because of the current uses of the site. The applicant will remove 600 dead orchard trees and portions of two former dairy farms' roads that are located along the pipeline route (OGE2008a Figure 6.6-4 b and 6.6-4 C). Therefore, construction and operation are merged together into construction impacts. Six hundred and fifty cubic yards of demolition waste will be recycled or landfilled (OGE2008e Table 6.14-3). Before construction can begin, the project owner would be required to develop and implement a Construction Waste Management Plan, per proposed Condition of Certification **WASTE-3**.

Non-hazardous Wastes

Staff estimates the non-hazardous solid wastes generated during construction would include approximately 1,100 tons of scrap wood, concrete, steel/metal, paper, glass, and plastic waste. Staff estimated the tonnage using estimates in OGE2008a, Section Table 6.14-3 and the California Integrated Waste Management Board Construction/Demolition and Inert Debris Tools http:www.ciwmb.ca.gov/leatraining/Resources/CDI/tools?Calculations.htm.

All non-hazardous wastes would be recycled to the extent possible and non-recyclable wastes would be collected by a licensed hauler and disposed in a solid waste disposal facility, in accordance with Title 14, California Code of Regulations, §17200 et seq.

Non-hazardous liquid wastes would also be generated during construction, including sanitary wastes, dust suppression drainage, and equipment wash water. Sanitary wastes would be collected in portable, self-contained toilets and pumped periodically for disposal at an appropriate facility. Potentially contaminated equipment wash water will be contained at designated wash areas and transported to a sanitary wastewater treatment facility. Please see the **SOIL AND WATER RESOURCES** section of this document for more information on the management of project wastewater.

Hazardous Wastes

Hazardous wastes anticipated to be generated during construction include empty hazardous material containers, solvents, waste paint, oil absorbents, used oil, oily rags, batteries, and cleaning wastes. The amount of waste generated would be minor if handled in the manner identified in the AFC (OGE2008a, section 614.2.1.2).

The project owner would be required to obtain a unique hazardous waste generator identification number for the site prior to starting construction pursuant to proposed Condition of Certification **WASTE-4**. Although the hazardous waste generator number is determined based on site location, both the construction contractor and the project owner/operator could be considered the generator of hazardous wastes at the site. Wastes would be accumulated onsite for less than 90 days and then properly manifested, transported and disposed at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies. The applicant provided staff with a list of six recycling facilities that may be used to manage project recycle materials and wastes (TRC2008E Data Response 71). Staff reviewed the disposal methods described in AFC Table 6.14-3 and in the responses to data requests, and concluded that all wastes would be disposed in accordance with all applicable LORS. Should any construction waste management-related enforcement action be taken or initiated by a regulatory agency, the project owner would be required by proposed Condition of Certification **WASTE-5** to notify the Energy Commission's Compliance Project Manager (CPM) whenever the owner becomes aware of any such action.

In the event that construction excavation, grading or trenching activities for the proposed project encounter potentially contaminated soils, specific handling, disposal, and other precautions may be necessary pursuant to hazardous waste management LORS, staff finds that proposed Conditions of Certification **WASTE-1** and **WASTE-2**

would be adequate to address any soil contamination contingency that may be encountered during construction of the project and would ensure compliance with LORS. Absent any unusual circumstances, staff considers project compliance with LORS to be sufficient to ensure that no significant impacts would occur as a result of project waste management activities.

Construction and Demolition (C&D) Waste Diversion

As an incentive to builders to recycle or reuse construction wastes and to help divert a larger percentage of these wastes from disposal at local landfills, San Diego County has adopted a C&D waste diversion deposit program, Ordinance 9840 Sections 68.508 through 68.518. This program was established in accordance with the mandates of the Integrated Waste Management Act of 1989 [Assembly Bill (AB) 939, Sher, Chapter 1095, Statutes of 1989], which established landfill waste diversion goals for both the state and local jurisdictions. Effective April 21, 2007, debris from construction and demolition projects must be diverted away from landfill disposal in the unincorporated portions of San Diego County. The ordinance requires that 90 percent of inert materials and 70 percent of all other materials must be recycled from a project. In order to comply with the ordinance, applicants must submit a Construction and Demolition Debris Management Plan and a fully refundable Performance Guarantee prior to building permit. This ordinance applies to construction, demolition, or renovation projects, 40,000 square feet or greater in the unincorporated county of San Diego. The deposit is fully refundable if, after project completion, the applicant submits documentation that at least 50 percent of project C&D wastes were diverted from disposal at landfills. In addition to the deposit and administrative fee, projects are also required to prepare and submit a project waste management and recycling plan upon application for a building permit. Adoption of Condition of Certification **WASTE-6** would ensure OGP owner compliance with Sections 68.508 through 68.518 of the San Diego County Code of Regulatory Ordinances. Staff believes that compliance with proposed Condition of Certification **WASTE-6** would further ensure that project wastes are managed properly and further reduce potential impacts to local landfills from project wastes.

Operation Impacts and Mitigation

The proposed OGP would generate non-hazardous and hazardous wastes in both solid and liquid forms under normal operating conditions. Table 6.14 of the project AFC gives a summary of the operation waste streams, expected waste volumes and generation frequency, and management methods proposed. Before operations can begin, the project owner would be required to develop and implement an Operation Waste Management Plan pursuant to proposed Condition of Certification **WASTE-7**. The Operation Waste Management Plan details the types and volumes of waste to be generated and how wastes will be managed, recycled, and or disposed of after generation.

Non-hazardous Solid Wastes

Non-hazardous solid wastes expected to be generated during project operation include routine maintenance wastes (such as used air filters, spent deionization resins, sand and filter media) as well as domestic and office wastes (such as office paper, newsprint, aluminum cans, plastic, and glass). All non-hazardous wastes will be recycled to the extent possible, and non-recyclable wastes would be regularly transported offsite to a

local solid waste disposal facility (OGE2008a, section 6.14.2.2.1). The applicant estimates the project will generate approximately 1.5 tons of non-hazardous waste per year (OGE2008a, page 6.14-15).

Non-hazardous Liquid Wastes

Non-hazardous liquid wastes would be generated during facility operation, and are discussed in the **SOIL AND WATER RESOURCES** section of this document.

Hazardous Wastes

The project owner/operator would be considered the generator of hazardous wastes at the site during facility operations. Therefore, the project owner's unique hazardous waste generator identification number, obtained prior to construction in accordance with proposed Condition of Certification **WASTE-4**, would be retained and used for hazardous waste generated during facility operation.

Hazardous wastes expected to be generated during routine project operation include used hydraulic fluids, oils, greases, oily filters and rags, spent SCR catalyst, cleaning solutions and solvents, and batteries. In addition, spills and unauthorized releases of hazardous materials or hazardous wastes may generate contaminated soils or materials that may require corrective action and management as hazardous waste. Proper hazardous material handling and good housekeeping practices will help keep spill wastes to a minimum. However, to ensure proper cleanup and management of any contaminated soils or waste materials generated from hazardous materials spills, staff proposes Condition of Certification **WASTE-8** requiring the project owner/operator to report, clean-up, and remediate as necessary, any hazardous materials spills or releases in accordance with all applicable federal, state, and local requirements. More information on hazardous material management, spill reporting, containment, and spill control and countermeasures plan provisions for the project are provided in the **HAZARDOUS MATERIAL MANAGEMENT** section of this Staff Assessment.

The amounts of hazardous wastes generated during the operation of OGP would be minor, with source reduction and recycling of wastes implemented whenever possible. The hazardous wastes would be temporarily stored on-site, transported offsite by licensed hazardous waste haulers, and recycled or disposed at authorized disposal facilities in accordance with established standards applicable to generators of hazardous waste (Title 22, CCR, §66262.10 et seq.). Should any operations waste management-related enforcement action be taken or initiated by a regulatory agency, the project owner would be required by proposed Condition of Certification **WASTE-5** to notify the CPM whenever the owner becomes aware of any such action.

Impact on Existing Waste Disposal Facilities

Non-hazardous Solid Wastes

During construction of the proposed project, approximately 1,100 tons of solid waste will be generated and recycled or disposed in a Class III landfill (OGE2008a, Section 6.14). The non-hazardous solid wastes generated yearly at OGP would also be recycled if possible, or disposed in a Class III landfill.

Table 6.14-1 of the project AFC identifies five non-hazardous (Class III) waste disposal facilities that could potentially take the non-hazardous construction and operation wastes generated by the OGP. These Class III landfills are all located in southern California in San Diego County. The remaining capacity for the four landfills combined is over 95 million cubic yards. The total amount of nonhazardous waste generated from project construction and operation will contribute less than one percent of the available landfill capacity. Staff finds that disposal of the solid wastes generated by the OGP can occur without significantly impacting the capacity or remaining life of any of these facilities.

Hazardous Wastes

Section 5.14.2.3.2 of the project AFC discusses the two Class I landfills in California: The Clean Harbor Landfill (Buttonwillow) in Kern County, and the Chemical Waste Management Landfill (Kettleman Hills) in Kings County. The Kettleman Hills facility also accepts Class II and Class III wastes. In total, there is in excess of 10 million cubic yards of remaining hazardous waste disposal capacity at these landfills, with approximately 30 years of remaining operating lifetimes.

Hazardous wastes generated during construction and operation would be recycled to the extent possible and practical. Those wastes that cannot be recycled will be transported offsite to a permitted treatment, storage, or disposal facility. The volume of hazardous waste from the OGP requiring offsite disposal would be far less than staff's threshold of significance and would therefore not significantly impact the capacity or remaining life of the Class I waste facilities.

CUMULATIVE IMPACTS AND MITIGATION

The OGP AFC lists nine projects proposed for the area: the Gregory Canyon Landfill, the Rosemary Mountain quarry, the Pala Band of Mission Indians cell tower project, the Palomar College Campus, the Pala casino expansion and four potential residential and mixed use projects (OGE2008a page 6.14-18). The OGP project will recycle over 50 percent of the construction of non-hazard waste (OGE2008a Tables 6.14-3). Less than one ton per year of hazardous waste will be disposed in a Class I landfill during construction. Two tons of hazardous waste will be disposed of during operation.

As proposed, the amount of non-hazardous and hazardous wastes generated during construction and operation of the OGP would add to the total quantity of waste generated in the State of California. However, project wastes would be generated in modest quantities, waste recycling would be employed wherever practical, and sufficient capacity is available at several treatment and disposal facilities to handle the volumes of wastes generated by the project. Therefore, staff concludes that the waste generated by the OGP would not result in significant cumulative waste management impacts.

COMPLIANCE WITH LORS

Energy Commission staff concludes that the proposed OGP would comply with all applicable LORS regulating the management of hazardous and non-hazardous wastes during both facility construction and operation. The applicant is required to recycle and/or dispose hazardous and non-hazardous wastes at facilities licensed or otherwise

approved to accept the wastes. Because hazardous wastes would be produced during both project construction and operation, the OGP would be required to obtain a hazardous waste generator identification number from USEPA. The OGP would also be required to properly store, package and label all hazardous waste, use only approved transporters, prepare hazardous waste manifests, keep detailed records, and appropriately train employees, in accordance with state and federal hazardous waste management requirements.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

Staff received comments from the Department of Toxic Substance Control (DTSC). DTSC provided staff with a memorandum outlining nine steps that would be necessary for safe construction and operation of OGP (DTSC 2008). In the memorandum DTSC provided comments that required OGP to supply documentation on the information that would normally be included in a Phase I ESA report (DTSC 2007a). The applicant provided copies of a June 6, 2008 Phase I, ESA, an April 30, 2007 and a February 5, 2008 Phase II ESA. Staff believes these submittals address DTSC's comments.

CONCLUSIONS

Consistent with the three main objectives for staff's waste management analysis (as noted in the Introduction section of this analysis), staff provides the following conclusions:

1. After review of the applicant's proposed waste management procedures, staff concludes that project wastes would be managed in compliance with all applicable waste management LORS. Staff notes that both construction and operation wastes would be characterized and managed as either hazardous or non-hazardous waste. All non-hazardous wastes would be recycled to the extent feasible, and nonrecyclable wastes would be collected by a licensed hauler and disposed of at a permitted solid waste disposal facility. Hazardous wastes would be accumulated onsite in accordance with accumulation time limits (90,180, 270, or 365 days depending on waste type and volumes generated), and then properly manifested, transported to, and disposed of at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies.

   However, to help ensure and facilitate ongoing project compliance with LORS, staff proposes Conditions of Certification **WASTE-1** through **8**. These conditions would require the project owner to do all of the following:

   - Ensure the project site is investigated and any contamination identified is remediated as necessary, with appropriate professional and regulatory agency oversight (**WASTE-1**, **2**, **3**, **4**, **5**, and **6**).
   - Obtain a hazardous waste generator identification number (**WASTE-4**).

- Prepare Construction Waste Management and Operation Waste Management Plans detailing the types and volumes of wastes to be generated and how wastes will be managed, recycled, and/or disposed of after generation (**WASTE-3** and **7**).
- Ensure that all spills or releases of hazardous substances are reported and cleaned-up in accordance with all applicable federal, state, and local requirements (**WASTE-8)**.
- Report any waste management-related LORS enforcement actions and how violations will be corrected (**WASTE-5**).

2. To ensure that the project site is investigated and remediated as necessary and to reduce any impacts from prior or future hazardous substance or hazardous waste releases at the site to a level of insignificance, staff proposes Conditions of Certification **WASTE-1**, **2**, **3**, 4, **5**, and **6**. These conditions would require the project owner to ensure that the project site is investigated and remediated as necessary; demonstrate that project wastes are managed properly; and ensure that any future spills or releases of hazardous substances or wastes are properly reported, cleaned-up, and remediated as necessary. Therefore, staff concludes that construction and operation of the proposed OGP project would not result in contamination or releases of hazardous substances that would pose a substantial risk to human health or the environment.

3. Regarding impacts of project wastes on existing waste disposal facilities, staff uses a waste volume threshold equal to ten (10) percent of a disposal facility's remaining capacity to determine if the impact from disposal of project wastes at a particular facility would be significant. The existing available capacity for the three Class III landfills that may be used to manage nonhazardous project wastes exceeds 95 million cubic yards (OGE 2008A Table 6.14-1). The total amount of nonhazardous wastes generated from construction and operation of OGP would contribute less than 0.1 percent of the remaining landfill capacity. Therefore, disposal of project generated non-hazardous wastes would have a less than significant impact on Class III landfill capacity.

   In addition, the two Class I disposal facilities that could be used for hazardous wastes generated by the construction and operation of OGP have a combined remaining capacity in excess of 10 million cubic yards. The total amount of hazardous wastes generated by the OGP project would contribute less than 0.02 percent of the remaining permitted capacity. Therefore, impacts from disposal of OGP generated hazardous wastes would also have a less than significant impact on the remaining capacity at Class I landfills.

Staff concludes that management of the waste generated during construction and operation of the OGP would not result in any significant adverse impacts, and would comply with applicable LORS, if the waste management practices and mitigation measures proposed in the OGP AFC and staff's proposed conditions of certification are implemented.

PROPOSED CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall provide the resume of an experienced and qualified Professional Engineer or Professional Geologist, who shall be available for consultation during site characterization (if needed), demolition, excavation and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies.
The Professional Engineer or Professional Geologist shall be given full authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM for review and approval.

WASTE-2 If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Professional Engineer or Professional Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, representatives of Department of Toxic Substances Control, and the CPM stating the recommended course of action.
Depending on the nature and extent of contamination, the Professional Engineer or Professional Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Professional Engineer or Professional Geologist, significant remediation may be required, the project owner shall contact the CPM and representatives of the Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the Professional Engineer or Professional Geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-3 The project owner shall prepare a Construction Waste Management Plan for all wastes generated during construction of the facility, and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

- A description of all construction waste streams, including projections of frequency, amounts generated and hazard classifications; and
- Management methods to be used for each waste stream, including temporary onsite storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

Verification: The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.

WASTE-4 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to generating any hazardous waste during construction and operations.

Verification: The project owner shall keep a copy of the identification number on file at the project site and provide the number to the CPM in the next Monthly Compliance Report.

WASTE-5 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the way project-related wastes are managed.

WASTE-6 The project owner shall provide a Debris Management Plan and a Performance Guarantee per the County of San Diego's Construction and Demolition Recycling Program (San Diego County Code of Regulatory Ordinance 9840 Section 68.508 through 68.518).The project owner shall ensure compliance with all of the county of San Diego's diversion program requirements and shall provide proof of compliance documentation to the county of San Diego and the CPM, including a Debris Management Plan, Performance Guarantee receipts, and records of measurement, consistent with the county of San Diego's normal reporting requirements. Project mobilization and construction shall not precede until the county of San Diego issues an approval document, consistent with the county's normal building permit approval process, and the CPM provides written concurrence.

Verification: Sixty days prior to the start of any construction activities, the project owner shall submit for review to the county of San Diego shall provide a Debris Management Plan and a Performance Guarantee per the County of San Diego's Construction and Demolition Recycling Program. At least 30 days prior to the start of any construction activities, the project owner shall submit the proposed Debris Management Plan, along with any comments received from the county of San Diego, to the CPM for review and approval. The CPM shall consider all comments by the city prior to approving the Debris Management Plan.

The project owner shall ensure that project activities are consistent with the approved Debris Management Plan and all applicable county of San Diego waste diversion requirements and provide adequate documentation of the types and volumes of wastes generated, how the wastes were managed, and volumes of wastes diverted. Project mobilization and construction shall not precede until the county of San Diego issues an approval document, consistent with the city's normal building permit approval, and the

CPM provides written concurrence. Not later than 60 days after completion of project construction, the project owner shall submit documentation of compliance with the diversion program requirements to the CPM and county of San Diego. The required documentation shall include a Debris Management Plan (as set forth by the city program), along with all necessary receipts and records of measurement from entities receiving project wastes.

WASTE-7 The project owner shall prepare an Operation Waste Management Plan for all wastes generated during operation of the facility, and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

- A detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;
- Management methods to be used for each waste stream, including temporary onsite storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;
- Information and summary records of conversations with the local Certified Unified Program Agency and the Department of Toxic Substances Control regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;
- A detailed description of how facility wastes will be managed, and any contingency plans to be employed, in the event of an unplanned closure or planned temporary facility closure; and
- A detailed description of how facility wastes will be managed and disposed upon closure of the facility.

Verification: The project owner shall submit the Operation Waste Management Plan to the CPM for approval no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.

The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year; provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan; and update the Operation Waste Management Plan as necessary to address current waste generation and management practices.

WASTE-8 The project owner shall ensure that all spills or releases of hazardous substances, hazardous materials, or hazardous waste are reported, cleaned-up, and remediated as necessary, in accordance with all applicable federal, state, and local requirements.

Verification: The project owner shall document all unauthorized releases and spills of hazardous substances, materials, or wastes that occur on the project property or related pipeline and transmission corridors. The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; amount of contaminated soil/material generated; how release was managed and material cleaned-up; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have be generated by the release. Copies of the unauthorized spill documentation shall be provided to the CPM within 30 days of the date the release was discovered.

REFERENCES

CEC2008k – CEC/F. Miller (tn47449) Data Requests 1-73, Set #1 dated 8/5/08. Submitted to Dockets 8/5/08.

DTSC2008A – A. Shami (n47892) DTSC response to OG AFC dated 8/27/08. Submitted to Dockets 9/3/08.

OGE2008a – OGE/S. Thome (tn46770) Application for Certification Orange Grove Energy dated 6/19/08. Submitted to Dockets 6/19/08.

OGE2008c – OGE/S. Thome (tn46979) Supplement to AFC dated 7/8/08. Submitted to Dockets 7/8/08.

TRC2008a – J. Stenger (tn46882) Project design drawings previously submitted at a reduced scale – Appendix 2-A dated 6/26/08. Submitted to Dockets 6/26/08.

TRC2008b – J. Stenger (tn46883) Phase I Environmental Site Assessment previously included in Appendix 6.14-A dated 6/26/08. Submitted to Dockets 6/26/08.

TRC2008f – J. Stenger (tn47854) Data Responses 1-73 dated 8/29/08. Submitted to Dockets 8/29/08.